The Veritas identity & System Omega in the Λ-model.

System Omega $\boldsymbol{\omega} = \left[\frac{k}{m}\right]$ appears quite generally in Nature's Laws & familiar Physics identities & relationships.

The omega may be masked *historically* through variant essentially classical expressions yet can be discovered anew via '*trial by Algebra*'.

First we introduce a Platonik identity invented, discovered, or imagined by the Author and known as

the Veritas equation, given here.

$$1. \quad h - dd\,.\,\lambda \quad = \quad h\,.\,\lambda - dd$$

$$\mathbf{1.}\boldsymbol{a} \qquad \frac{\boldsymbol{h - dd\,.\,\lambda}}{\boldsymbol{h\,.\,\lambda - dd}} \quad = \mathbf{1}$$

$$[-\boldsymbol{dd}]\ \boldsymbol{means}\ '\boldsymbol{double}' - \boldsymbol{dot}\ \ \boldsymbol{or}\ \frac{\boldsymbol{d^2}}{\boldsymbol{dt^2}}, \qquad \boldsymbol{where}\ \ [-\boldsymbol{dot}]\ \boldsymbol{is\ likewise}\ \frac{\boldsymbol{d}}{\boldsymbol{dt}}$$

i.e. Newtonian dot notation is implied, albeit somewhat nuanced in a model parametrik sense, i.e. dots may *flow* freely under action of a system omega, and in this fluid or *fluxions* sense, a standard both-ways *time symmetry* is invoked. What is non-standard is that system time { **t** }**s** and system general force { **F** }**s** are synonymous, or actually identical with the system gamma **[γ]s**.
A model hypothesis is such that a ***'time is force'*** argument applies.

{ subscript [s] = 'system' as applied in the Lambda model} Also system Omega is <u>negative</u> system gamma, or

$$\mathbf{2.}\ \{\ \boldsymbol{\omega} \ = \ -\boldsymbol{ve\gamma}\ \}\boldsymbol{s}$$

$$Equation\ \mathbf{2.}\ is\ in\ effect\ \boldsymbol{N.3.L.}\,\&\ \boldsymbol{Hooke's\ Law}\ [\boldsymbol{F} \ = \ -\boldsymbol{kx}], \qquad or\ \boldsymbol{Fs} \ = \ \{-\boldsymbol{ve\lambda\,.\,\lambda}\}\boldsymbol{s}$$

$$in\ this\ model, \qquad \mathbf{2.}\boldsymbol{a.} \quad [\boldsymbol{\omega}]\boldsymbol{s} = \ -\boldsymbol{ve}\ \{\boldsymbol{t}\}\boldsymbol{s}\ \ also.$$

$$We\ introduce\ \boldsymbol{System\ Omega}: \quad \mathbf{3.} \quad \left[\ \ \omega = \frac{mm}{\gamma^8}\ \right]s \quad = [\boldsymbol{\gamma}^{-3}\,]\boldsymbol{s}\ \ also\ equivalently$$

$$\mathbf{3.}\boldsymbol{a} \qquad \left[\boldsymbol{\omega} \ = \frac{\boldsymbol{k}}{\boldsymbol{m}}\right]\boldsymbol{s}$$

$$this\ is\ the\ simple\ version,\ and\ reflects\ a\ \ '\boldsymbol{wave}-\boldsymbol{partikle}'\ \ \boldsymbol{mutuality}\ in\ this\ model.$$

$$Where\ [\boldsymbol{k}]\boldsymbol{s}\ is\ the\ wave\ number\ of\ the\ system,\ \ classically\ \left[\boldsymbol{k} \ = \frac{\mathbf{1}}{\lambda}\right]\boldsymbol{s}, thus$$

$$\mathbf{3.}\boldsymbol{b} \qquad \boldsymbol{\omega m\lambda} \ = \ \mathbf{1}$$

$$\&\ \ a\ \ model\ \ \boldsymbol{de\ Broglie}\ expression\ can\ be\ inferred$$

$$\mathbf{4} \qquad \boldsymbol{\lambda} \ = \ \boldsymbol{\omega m\gamma}$$

$$Where\ subscript\ [\boldsymbol{s}]\ is\ generally\ implied\ going\ forward\ e.g.\ \ *\ system\ lambda\ [\,\lambda] = [\lambda]s$$

$$note\ system\ gamma \ = \ system\ lambda\ squared, in\ modulus\ sense$$

$$\mathbf{5.} \qquad [\boldsymbol{\gamma}] \ = \ [\boldsymbol{\lambda}^{\mathbf{2}}]$$

$$and\ from\ \mathbf{3.}\,above\ [\boldsymbol{mm}]\ must\ be\ \boldsymbol{\gamma}^{\mathbf{5}}$$

$$or\ we\ get\ system\ mass\ [\boldsymbol{m}]\boldsymbol{s}$$

$$\mathbf{6.}\ \ [\boldsymbol{m}] = \ [\boldsymbol{\lambda}^{\mathbf{5}}]$$

$We\ can\ see\ from\ previous\ identities\ that\ all\ parameters\ can\ be\ expressed\ in$

$lambda\ or\ [k] numbers\ of\ any\ physical\ system\ under\ inspection.$

$By\ physical\ we\ mean\ \boldsymbol{\lambda s}\ \neq \mathbf{0}, which\ implies\ also, \boldsymbol{m} \neq\ \mathbf{0}$

$Obviously\ the\ \boldsymbol{k} - number\ is\ the\ reciprocal\ lambda\ number, etc, or\ classically$

$$\boldsymbol{k^n}\ =\ \mathbf{1}/\boldsymbol{\lambda^n}$$

$So\ if\ lambda\ cubed\ (classically\ a\ volume\ V)\ yields\ energy,$

$$we\ may\ call\ this\ \boldsymbol{m - dot}\ = \left[\frac{\boldsymbol{dm}}{\boldsymbol{dt}}\right] = \frac{\boldsymbol{m}}{\boldsymbol{\gamma}}$$

$The\ reciprocal\ \boldsymbol{k} - number\ scenario\ would\ be\ inverse\ volume\ or\ \boldsymbol{k^3}, and\ we\ call\ that\ \boldsymbol{acceleration}$

$$or, \quad \frac{\boldsymbol{d^2\lambda}}{\boldsymbol{dt^2}} = \boldsymbol{lambda - dd}\ =\ \boldsymbol{acceleration}\,[\boldsymbol{a}] = \boldsymbol{k^3} = \boldsymbol{k - dot}\ = [\boldsymbol{k/\gamma}]$$

$All\ identical\ we\ call\ this\ the\ \boldsymbol{gravity\ pixel}\ in\ the\ lambda\ model,$

And further add that $[\boldsymbol{a}]$ is identical with ***negative mass***, or

$$[\boldsymbol{a}] = \boldsymbol{-ve\ m}\ =\ \boldsymbol{m - dddd}\ =\ \boldsymbol{m} - 4dots = \frac{\boldsymbol{m}}{\boldsymbol{\gamma^4}} = \frac{\boldsymbol{d^4[m]}}{\boldsymbol{dt^4}}$$

$$\boldsymbol{The\ negative\ operator\ is} \frac{\mathbf{1}}{\boldsymbol{gamma^4}}\ \boldsymbol{and\ adds\ a\ ½\ cycle\ clockwise\ rotation\ in\ the\ model}$$

$w.r.t\ horizontal\ the\ standard\ r.h.s. datum * \ on\ a\ unit\ lambda\ complex\ wheel$

$Thus\ 2\ negative\ operators\ in\ tandem\ gives\ 1\ full\ c.w. rotation.$

$In\ essence\ system\ 'inertial\ mass'\ lies\ on\ \lambda^5\ \ a.c.w.\ \&\ -ve\ mass\ lies\ on\ lambda^{-3}\ c.w. phase\ sense *.$

$Mass\ having\ being\ divided\ by\ lambda^8\ \ here, \quad as\ gamma\ =\ lambda^2, \quad stated\ \ previously.$

$\boldsymbol{The\ model\ views\ inertial\ mass\ as\ Action, and\ -ve\ mass\ as\ reaction\ or\ -ve\ action.}$

$$Or, \quad \boldsymbol{Action} \quad \mathbf{7}. \quad \boldsymbol{\gamma.m - dot}\ =\ \boldsymbol{m},$$

$$\&\ \boldsymbol{-ve\ Action} \quad \mathbf{8} \quad \boldsymbol{-ve[\gamma.m - dot]}\ =\ \boldsymbol{-ve\ m}$$

$$can\ be \qquad \mathbf{8}.\boldsymbol{a}\ \ \boldsymbol{-ve\ mass}\ = [\ \boldsymbol{-ve\ gamma}\,.\ \boldsymbol{energy}\ \ (+)\ \ \boldsymbol{gamma}\,.\ \boldsymbol{-ve\ energy}\,]$$

$[2] states\ in\ omegik\ superposition$

$$We\ note\ here\ that\ -ve\ energy\ is\ \left[\frac{lambda^3}{gamma^4}\right] = \left[\frac{\lambda^3}{\lambda^8}\right] = \frac{1}{\lambda^5} = k^5 =\ 1/m\ reciprocal\ mass.$$

$$Which\ supplies\ a\ useful\ model\ standard\ \ utilising\ [-m - dot] = \frac{1}{m} \quad thus$$

$$\mathbf{9}. \quad -ve\ [m.m - dot]\ =\ 1$$

$and\ equivalent\ \ to$

$$Unity\ =\ [\,-ve\ mass.energy]\ (+)\ \ [-ve\ energy.mass] \qquad [2]\ states.$$

$$With\ a\ little\ work\ most\ if\ not\ all\ of\ the\ previous\ identities\ can\ be\ morphed\ into\ \&\ flow\ thro\ each\ other,$$

$$and\ we\ quote\ some\ model\ standards\ with\ resonance\ to\ classical\ familiars.$$

$$from\ previous\ view\ w.r.t\quad Action\ =\ m, \qquad -ve\ Action\ =\ -ve\ m\ =\ Reaction$$

$$The\ product\ of\ action\ x\ reation\ yields\ the\ Gamma\ 'force'\ or\ N.2.L.\ \&\ U.L.G.$$

$$\mathbf{10.}\qquad \gamma\ =\ -m.m \qquad identical\ to\ F = ma$$

$$And\ with\ a\ -\mathbf{ve\ Operator}\ appled\ to\ \mathbf{10.}\ we\ \ get\ omega$$

$$\mathbf{11.}\quad \omega\ =\ -ve.-ve[m.m]$$

$$\mathbf{11.a}\quad \omega\ =\ [\ \{--m.m\}\ (+)\{-m.-m\}\ +\ \{m.--m\}\ ]\qquad [3]\ -states$$

$$as\ \ \mathbf{acc}\ =\ -\mathbf{ve\ mass}\ \ then, \qquad -ve\ a\ =\ -ve\ .-ve\ mass$$

$$-ve\ a\ =\ \left[\frac{m}{\gamma^8}\right]\ =\ \frac{\lambda^5}{\lambda^{16}}\ =\frac{1}{\lambda^{11}}\ =\ k^{11}$$

$$now\ \ k^{11}\ =\ S-dot\ =\ \frac{S}{\gamma}\ =\ \frac{dS}{dt}\qquad i.e.\ \ entropy-rate$$

$$thus\ \ entropy\ \ [S]\ =\ k^9 \qquad \&\ \ a.c.w\ sense$$

$$Thus\ we\ can\ produce\ another\ model\ omega\ expression$$

$$\mathbf{11.b}\quad \omega\ =\ -ve.-ve\ [m.m]$$

$$thus\quad \mathbf{11.c}\qquad \omega\ =\ [mS]-dot$$

$$\&\ expanded\ to$$

$$\omega\ =\ \{\ [\ m-dot\ .\ S\ ]\ (+)\ \ [\ m\ .\ S-dot\ ]\ \}$$

$$System\ Omega\ =\ [\{\ energy\ x\ entropy\ \ \leftrightarrow(+)\leftrightarrow\ \ mass\ \ entropy\ rate\ \}]$$

$$this\ last\ can\ help\ with\ darkness\ paradigms\ currently\ in\ vogue\ in\ Physik.$$

$$The\ model\ views\ energy\ in\ the\ classical\ way, say\ in\ conventional$$

$$Newtonian, Hamiltonian\ or\ Lagrangian\ sense, i.e.$$

$$these\ express\ any\ \ dynamic\ system\ of\ kinetic\ \&\ potential\ energy\ states\ in\ mutual\ fluxion/s.$$

$$This\ is\ m-dot\ in\ a\ general\ model\ sense, \qquad where\ the\ [-dot] operator\ is\ frequency, \qquad f\ = 1/t$$

$$thus\ the\ model\ contends,$$

$$\mathbf{12.}\quad [\lambda-dot]^2\ =\ \ [\lambda.\lambda-dd]\ \ is\ likewise\ a\ frequency\ or\ [\frac{1}{\gamma}] expression.$$

as *lambda-dot is a k-number*, this is classically a velocity expression

Where $\lambda - dot\ =\ \left[\frac{\lambda}{\gamma}\right]\ =\ \left[\frac{dx}{dt}\right]\ =\ v, as\ lambda\ can\ be\ \{x\} of\ course.$

So we may derive a grounding in 12. for *Fitzgerald - Lorentzian* effects, such as length contraction etc,

$$A\ model\ maxim\ is\ developed.$$

$$Large\ Lambda\ schemes\ have\ low\ magnitude\ \ k - numbers, and\ thus\ very\ small\ acceleration\ number.$$

$$Conversely\ very\ small\ lambda\ schemes\ have\ very\ large\ magnitude\ \ k - number\ \&\ thus\ very\ large\ acceleration.$$

$$We\ can\ further\ add$$

$$large\ schemes\ possess\ low\ magnitude\ entropy\ \ [S]\ \&\ \ very\ low\ entropy\ rate\ [S] - dot, respectively.$$

$$Conversely\ large\ magnitude\ [S]\ \&\ even\ higher\ for\ \ [\frac{dS}{dt}], are\ experienced\ in\ micro - lambda\ schemes.$$

A *fearful symmetry* seems apparent at Cosmological & quantum scales in Nature.

$$This\ maxim\ is\ counter\ to\ the\ standard\ view\ that\ the\ twain\ never\ meets\ in\ Quantum\ \&\ Classical\ /Relativistic\ models, thus\ the\ idee\ fixee\ developed\ that, we\ absolutely\ must\ find\ a\ holy\ grail\ solution$$

$$such\ as\ quantum\ gravity\ to\ fix\ the\ disparity.$$

$$This\ is\ potentially\ a\ phenomenological\ perspective\ only, largely\ historical\ in\ basis,$$

$$\&\ erroneous\ one\ might\ strongly\ suspect.$$

$$Physical\ lambda\ model\ adherents\ maintain\ that\ it\ is\ mistaken\ to\ mean$$

$$fundamentally\ different\ physics\ is\ at\ work\ here.$$

$$In\ the \lambda - model, scale\ is\ invariant\ and\ model\ Physik\ rules\ are\ quite\ general, regardless\ of\ size,$$

$$of\ any\ particular\ scheme/s\ under\ investigation.$$

$$Let's\ look\ at\ some\ examples:$$

$$Keplers\ 3rd\ Law\qquad \frac{R^3}{T^2}\ =\ constant\ [k]$$

$$Or\ in\ model\ terms,\qquad R\ =\ \{r\}\ =\ \{x\}\ =\ [\lambda]\ or\ system\ lambda, thus$$

$$\frac{\lambda^3}{\gamma^2}\quad =\quad \frac{energy}{momentum}\quad =\quad \frac{m - dot}{p}$$

$$=\quad \frac{m - dot}{\gamma^2}$$

$$=\quad \frac{m}{\gamma^3}$$

$$=\ \omega m$$

$$\&\ as\ product\quad [\ \omega.mass]\ \ equates\ to\ a\ \ system\ \ [k] - number$$

$$i.e.\quad wm\ =\ k,\qquad Keplers\ costant\ is\ the\ k - no\ of\ our\ local\ Binary\ System\ or\ Newtonian\ G$$

$$\textit{This allows us to gauge Solar scheme Omega at the Earth remove.}$$

$$\textit{We use o.o.m. calculations and no units, or we end up with dimensionless ratios on occasion}$$

$$\textit{otherwise the S.I. relevant unit or units are always implied.}$$

$Let\ \ M = 10^{30},\ \ m = 10^{25},$

$\&\ let\ system\ mass\ [m]s = binary\ product\ [Mm],\quad law\ of\ lever\ resonance.$

$and\ as\ the\ de\ Broglie\ yardstick\ is\ \lambda s = 10^{11}$

$$Then\ System\ Omega, gives,\qquad \omega = \frac{k}{m}$$

$$= \frac{1}{[m.\lambda]} = \frac{1}{[10^{55}.10^{11}]}$$

$$= 10^{-66}.$$

$$And\ as\ Omega = a^2\ then\ our\ local\ system\ acc\ pixel\ -ve\ mass = \sqrt{[10^{-66}]}$$

$$= -ve\ m = [a] = modulus\ circa\ [\ h]\ the\ \ Planck\ unit\ of\ Action,$$

$$we\ see\ it\ as\ -ve\ action\ of\ course.$$

Dirac's relativistic electron eqn rendered into the model

$$m\{\psi\} = i.\gamma\frac{d[\psi]}{dx}$$

$$in\ 1-d\ here\ say, \qquad thus\frac{d}{dx} = \frac{d}{d\lambda} = \frac{1}{\lambda}\ (approx.) = [k]s$$

$$in\ our\ model\ imaginary\ \{i\}\ is\ equivalent\ to\ system\ momentum\ , thus$$

$$\{i\} = p = gamma^2 = lambda^4 = \sqrt{[m.m-dot]} = \surd(-1)$$

$$also, we\ can\ cancel\ Psi\ both\ sides, for\ clarity, i.e. the\ pared\ down\ model\ Dirac, now\ gives$$

m = k/ω

Schrodinger

$$ih-bar\ d\{\psi]/dt = H\{\psi\}$$

$$let\ i = p\ as\ before, \qquad \&\ d/dt = -dot = \frac{1}{\gamma}$$

$$\&\ as\ \ h-bar = \left\{\frac{h}{2\pi}\right\}, \qquad we\ ignore\ factor\ [2] as\ indicating\ perhaps\ \ 2-states.$$

$$We\ get, \qquad \{i-h-bar\}-dot = energy \quad or,$$

$$[\ \{i-dot.[h-bar]\} \quad (+) \quad \{\ i.\ [h-bar]-dot\}\ ] = m-dot,$$

$$where\ we\ allow\ for\ a\ possibility\ of\ +ve/-ve\ energy\ on\ r.h.s.$$

$$Firstly,\ \ h-bar = -ve\frac{mass}{(2)\pi}$$

$$= -mp\ , \qquad\qquad as\ 1/\pi = p$$

$$= ap = k^3.\lambda^4 = \lambda\ \ in\ this\ case$$

$$then\ \{\ i.h-bar\}-dot\ \ \ gives,$$

$$[p.\lambda]-dot = [\ \{\ p-dot.\lambda\ \} \quad (+) \quad \{\ p.\ \lambda-dot\ \}\ ]s$$

$$or\ [2]\ states\ \ \ [\ \{p.k\} + \{\ \gamma.\lambda\}] = energy = modulus\left[\ lambda^3\ \right]$$

$$Now\ \ +ve\ energy = reciprocal\ acceleration\ (gravity) \quad or, \quad a.e = Unity$$

$$\&\ if\ we\ plumb\ for\ -ve\ energy, that\ is\ identical\ to\ inverse\ mass.$$

$$So\ we\ see\ in\ the\ generalized\ T.D.S.E,$$
$$we\ have\ a\ very\ full\ exposition\ of\ the\ scheme, in\ either\ \&\ both,$$

$$a\ dynamic\ Superposition\ of\ [2] states$$

$$-ve[mass.energy] = Unity, \qquad identically\ [acceleration\ x\ energy]$$

$$\&/or$$

$$[mass\ .-ve\ energy] = Unity = [m/m]$$

$$A\ system\ incorporating + \ ve\ \ \&\ -ve\ aspects\ of\ mass, energy,$$

$$\&\ \ gravity\ at\ face\ value\ and\ the\ system\ Omega\ within.$$

Maxwell & Faraday.

$$-\frac{dB}{dt} = \Delta\, X\, E$$

$$\textit{We state some assumptions,} \quad \textit{the minus sign here } (-) \textit{ is model } -ve\ Operator$$

$$B\ can\ be\ [m.\gamma] = lambda^7\ unity\ wheel * peg\ coincident\ with\ both\ moment\ of\ inertia\ [\,I],$$
$$and\ also\ [S] = k^9, but\ we\ go\ with\ the\ former\ case\ here$$

$$so, \quad \frac{dB}{dt} = \frac{[m.\gamma]}{\gamma} = m$$

$$Likewise, \quad -ve\frac{dB}{dt} = -ve\ mass = [a]$$

$$\{t\} = [\,\gamma]s \quad , \quad \Delta = Del = \frac{d}{dx}\ in\ 1-d, and\ thus = [k]s$$

$$E = -ve\ frequency, \quad and/or - ve.-ve[m.\lambda]s\ \ identically = -ve\left[energy^2\right]\ thus\ E\ yields\ 1/mm$$

$$\&\ finally\ the\ classical\ [X]\ vector\ product, \quad is\ also = -ve\ Operator = \frac{1}{\gamma^4}$$

$$we\ get,$$

$$a = del\ X\ E$$

$$= \ k\,.-ve\frac{1}{mm}$$

$$= -\frac{vek}{mm}$$

$$= \frac{S}{mm}$$

$$= k^9.k^{10} = k^{19}$$

$$Now\ k^{19}\ is\ coincident\ with\ the\ 'peg'\ \left[\,k^3\right] = [a]$$

$$on\ the\ familiar\ \ unit - \lambda\ \ complex\ wheel$$

$$after\ 1\ full\ c.w.rotation\ by\ k^{16}, thus$$

$$-ve\ mass = a$$

Note: The model uses a *Unity lambda complex wheel with `16 *pegs* set apart at intervals of [π/8]

The general lambda [λs]

System Lambda = $\left[\lambda.e^{i.\frac{\pi}{8}}\ \right]^n$ **n = +/- { 0,1,2,3,}**

$$+ve\ integers\ yield\ \lambda^n\ \ and -ve\ integers\ k^n$$

these, cycle in acw & cw sense rotation, respectively.

Maxwell cont.

Similarly on the unity wheel, we see [B] & [S] *share a coincident peg*,

therefore is [B] a micro lambda

***phenomenon* label for entropy [S], and of course visa versa?**

Say $\boldsymbol{\omega} = \left[\frac{\boldsymbol{mS}}{\boldsymbol{\gamma}}\right] = \left[\frac{\boldsymbol{mB}}{\boldsymbol{\gamma}}\right]$

$= [\boldsymbol{mS}] - \boldsymbol{dot} = \boldsymbol{m} - \boldsymbol{dot.S}\ (+)\ \boldsymbol{m.S} - \boldsymbol{dot}$ **&/or**

= [mB]-dot = m-dot. B (+) m. B-dot

$\boldsymbol{Then\ w/m\ =\ B - dot\ =\ k/mm\ =\ k.E}$

$\boldsymbol{Thus\ we\ derive\ a\ familiar\ \ E\ =\ cB\ can\ be\ found}$

$\boldsymbol{B\ =\ E.k\gamma\ =\ E.\lambda\quad thus}$

$\boldsymbol{E\ =\ kB\ =\ cB\ \&\ now\ \ cS = kS = E = k^{10}}$ **and from**

w/m = B-dot

[-m.-m]/ m = dB/dt then,

-m = - dB/dt = [a], etc

w.r.t to generic Platonik identities in the model there are many 2nd order equations or identities which allow for resonance with Classical ideas.

Generally any sensible *dummy parameter* [$]

+ve /-ve will do to emulate $\boldsymbol{\gamma}.[\$] - \boldsymbol{dot} = [\$]$ **examples,**

$[\$] = \{\ \boldsymbol{mass},\quad \boldsymbol{lambda},\quad \boldsymbol{Hooke}\ [\boldsymbol{K}],\ \ \boldsymbol{entropy}\ ,\quad \boldsymbol{etc}$

$\boldsymbol{Which\ aligns\ well\ with\ another\ 2nd\ order\ type}$

$[[\$] - \boldsymbol{dot}^{2} =\ [\$]\ .\ [\$ - \boldsymbol{dd}]$

$\boldsymbol{and\ some\ notable\ examples\ are\ again\ lambda, mass, entropy, omega, \&\ gamma, etc\ etc}$

Thus we may look at the System *gravity pixellation* from an array of

entropy or [B]-field and -ve mass or gravity *angle*,

aligning with some modern paradigms i.e. ‘*emergence phenomenon’*

linking perhaps,

system rate of entropy with -ve gravity, which is also, -ve.-ve mass.

Maxwell cont.

We'll approach it differently here, allowing a 2nd order gamma differential or double dot [-dd]

Acting on Maxwell's equations.

$$-\frac{d^2B}{dt^2} = \Delta\, X \frac{dE}{dt}$$

in model terms, $dE/dt = E - dot = 1/[mm\gamma]s = k^{12} = \omega^2$

so we get

$[-vem]/\gamma = -\omega^2.k$ **now transpose the gamma**

$-ve\ mass = -ve\omega^2.[\gamma k],$

yields the familiar s.h.m. expression

$-\omega^2.\lambda = a$

Lorentz Force equation

F = q [E + v X B]

There are many routes through this to yield [+ve &/or-ve] *force*

i.e. [F] gives *gamma or omega* respectively.

The standard assumptions apply,

say charge = +ve or -ve, or +q, -q

Charge in this model is [m.k] gives [q] = λ^4 **or [p] perhaps,**

& -ve[mk] = [-q] = k^4 **or [π] perhaps**

E = 1/mm = k^{10}

B = [mγ] = λ^7 **or could be [S] =** k^9

We can say [X] product is -ve Operator or a standard multiplier {x}

Velocity [v] can be [c] &/or system k, of course.

Fun can be had & we get several reasonable results for variant input

& some feel,… *more natural than others*

The Hamiltonian

(1) dq/dt = +ve ∂H/∂p
(2) -ve dp/dt = ∂H/∂q

$$I'm\ allowing\ previous\ statements\ of\ wide\ latitude\ applies\ to\ the\ formalism$$

$$i.e. I\ often\ make\ no\ distinction\ between\ partial\ [\partial]\ \&\ [d],$$

$$and\ indeed\ freely\ cancel\ these\ on\ most\ occasions.$$

$$Generally\ the\ Hamiltonian\ is\ relaxed\ to$$

$$[H] = composite\ 'system\ 'energy = m - dot = \frac{dm}{dt}.etc$$

[q = lambda], [p = model momentum], [t = gamma], etc

Thus, we get

(1.a) k = ωm

(2.a) γ = -ve [m-dot].k

And as system gamma force = [m.k]-dot = m-dot.k (+) m.k-dot

And we can say l.h.s. gamma in (2.a) = omega, from ω = -ve[γ] and general commutativity

w.r.t. the minus sign, i.e. classically this can transpose across the equality,etc.

Note: The model sees an easier way than previous example, whereby we suggest, very respectfully, that a -ve sign may be missing on l.h.s. of conventional Hamiltonian [2],

but we can largely bypass that by rewriting Hamiltonian 1 in model terms

$$H1: \quad \lambda - dot = \frac{m-dot}{p} \qquad k = \frac{energy}{momentum} = \pi.[m - dot] = [\frac{m}{\gamma^3}]$$

then simply post a -ve sign on both sides of H1 to give,

$$H2: \quad -ve\ \lambda - dot = \frac{-ve\ m-dot}{p}$$

Applying the model mode, we get

H1: k = ωm

as before, & H2: gives [-ve k]= [-ve energy/ momentum] , or

$$H2: \quad S = -ve[\omega.m]$$

$$S = [\{-ve\omega\,.m\} \leftrightarrow (+) \leftrightarrow \{\omega.-ve\ m\}]$$

or an entropy expression, where alternatively we could say, Hooke's constant is differentiated once w.r.t. gamma,

$$[dK/dt] = K/\gamma = K - dot = [k^7/\gamma] = S$$

$S = k^9$ ***c.w. 'peg'***

Of course this begs the ask, why not differentiate model Hamiltonians once again or more

$$*\,H1: \quad \lambda - dd = \frac{m-dd}{p}$$ ***gives [a] = -ve mass***

$$*\,H2: \quad -ve\lambda - dd \;=\; \frac{-ve\;m-dd}{p}$$ ***gives -ve[a] = dS/dt***

Nothing very extraordinary here as we could emulate these new model entries by a minor variant on Hamilton's originals, say for H1 alone, we could say.

H1.a:

$$\frac{\partial H}{\partial t}.\frac{\partial t}{\partial p} = \frac{dq}{dt} \qquad allowing\; \frac{dH}{dp} = \frac{dq}{dt}$$

$$Or\; simplified\; to\; \frac{H}{p} = \frac{\lambda}{t} \qquad or,\;\; H.t \;=\; p.\lambda$$

$$that\; gives,\; \gamma.m - dot = mass \qquad of\; course.,as\;[p] \;=\; \lambda\text{^}4$$

H1.a: is identical and could also be, a la mode

$$\gamma - dot.\frac{\partial H}{dp} = q - dot \qquad allowing\;[\,e/p\,] \;=\; k,\;\; \&\;\; energy = pk = [pc]\;\textit{familiar}$$

$$\&\,[e.\lambda] \;=\; p$$

And something similar but also inclusive of the -ve Operator <u>both sides</u>
for remodelled H2, where we said H2 = -ve H1

$$-ve\left[\gamma - dot.\frac{\partial H}{dp}\right] = -ve\;[q - dot]$$ ***allowing [-ve energy /p] = -ve lambda***

$$and\; as - ve\; energy = reciprocal\; mass\;, and - ve\; lambda = Hooke\;[K], we\; get$$

1/mp = K -dot

[K] is Hooke's constant, or reciprocal Moment of Inertia [1/ I]

***Then another Unity identity is found* m.p.K = 1**

Now [m.K] = [lambda^5. Lambda^-7] = 1/lambda^2 = frequency, f = 1/gamma

Thus 1 = pf = p-dot = p/γ = [dp/dt]= γ^2/γ gives system gamma [γ]s = [F] = {t}, in this scheme.

Einstein, Planck, De Broglie & Heisenberg, et al

S.R. & E = mc^2

$$\boldsymbol{becomes\ energy\ =\ m-dot\ =\ mass\,.frequency}$$

$$\boldsymbol{E\ =\ m.k^2}$$

The model invokes a direct constant of proportionality for the mass energy equivalence

$$12. \qquad \boldsymbol{\gamma.m-dot\ =\ m}$$

Which is a simple derivative from the system energy e = [mass/gamma] = [dm/dt]

Or the Action principle, as seen in Heisenberg's pared back Uncertainty Principle

Featuring energy & time in product, where he employs [h] as the mimimun of action,

E.t = $\geq \boldsymbol{h}$***, & also used in Δp.Δx*** $\geq \boldsymbol{h}$

Which can be pared back to yield Louis de Broglies wave hypothesis

λ = h/p

the $model\ explicitly\ allows\ for\ -ve\ mass\ =\ [\boldsymbol{h}]\ thus\ we\ have\ [2]\ de\ Broglies$

1. $\boldsymbol{m\ =\ p.\lambda}$

$$=\ \boldsymbol{+ve\ mass\ =\ momentum\ \ x\ lambda\ =\ lambda^5,\ \ locally\ [Mm]}$$

2. $\boldsymbol{-ve\ m\ =\ -ve[p.\lambda] = [\ \{-vep\,.\lambda\ \leftrightarrow\ (+) \leftrightarrow\ p.-ve\ \lambda\}\ ]}$

$$=\ \boldsymbol{lambda^{-3},\ \ locally\ -ve\ [Mm]\ =\ [h]}$$

$$2.\ gives\quad \boldsymbol{a\ =\ \pi.\lambda},\qquad (+)\ \ \boldsymbol{p.K}\qquad where\ \boldsymbol{p\ =\ \lambda^4},\ \ \&\ \boldsymbol{K\ =\ k^7\ =\ Hooke's\ constant}.$$

$As\ we\ introduced\ de\ Broglie\ here, we\ see\ the\ \boldsymbol{Photo-electric\ effect}\ \ and\ the\ \boldsymbol{Einstein-\ Planck}\ relationship\ has\ similarly\ modelled\ omega\ attributes.$

$$\boldsymbol{E}\ =\ \boldsymbol{h}.\boldsymbol{\nu}\quad can\ posess\ (+ve/-ve)\ flavours,$$

$$-\boldsymbol{ve}E\ =\ -ve\ [mass\ .frequency] =\ -ve\ m-dot$$

$$\&\ +\boldsymbol{ve}\ E\ =\ m-dot$$

$$The\ combination\ can\ yield\ up\ model\ identity$$

$$-\boldsymbol{ve}[\boldsymbol{mass}.\boldsymbol{energy}] =\ \mathbf{1}$$
$$\boldsymbol{thus}$$
$$[\boldsymbol{mass}.\boldsymbol{energy}] =\ -\boldsymbol{ve}\ \mathbf{1}$$

$$\boldsymbol{Unity} =\ \lambda^{\mathbf{0}}\ \&\ \{\boldsymbol{n}\}\boldsymbol{x}\ \mathbf{2}\pi\ \boldsymbol{repeats\ to}\ \lambda^{\mathbf{16}} = \{\mathbf{2}\}\boldsymbol{\pi}, [\boldsymbol{a}.\boldsymbol{c}.\boldsymbol{w}.], \boldsymbol{etc}$$

$$\boldsymbol{And}\ -\boldsymbol{ve}\ \mathbf{1}\ =\ \boldsymbol{\lambda}^{\mathbf{8}}\ \&\ \{\boldsymbol{n}\}\ \boldsymbol{x}\ \mathbf{2}\boldsymbol{\pi}\ \boldsymbol{repeats\ to}\ \boldsymbol{\lambda}^{\mathbf{24}}, [\boldsymbol{c}.\boldsymbol{w}.], \boldsymbol{etc}$$

$$\boldsymbol{Where}\ +\frac{\boldsymbol{ve}}{-\boldsymbol{ve}}\mathbf{1}\ \boldsymbol{can\ be\ fashioned\ by\ various\ periodic}\ \{\boldsymbol{k}^{\boldsymbol{n}}\}\ \boldsymbol{of\ course\ also, with}\ \mathbf{1}/\mathbf{2}\boldsymbol{\pi}\ [\boldsymbol{c}.\boldsymbol{w}.]\ \boldsymbol{sense\ application}.$$

$$w.r.t.the\ Photo-electric\ effect\ kinetic\ \boldsymbol{E}\ =\ \boldsymbol{h}.\boldsymbol{\nu} - \emptyset$$

$we\ see, that\ the\ work\ function\ Phi, can\ be\ seen\ as\ the\ need\ to\ overcome\ the\ -ve\ \text{‘}binding\text{’}\ energy\ perhaps, and\ in\ any\ case\ it\ is\ a\ re-working\ of\ the\ previously\ stated\ model\ identity..$

The equivalence principle & G.R.

The model says -ve mass = a = gravity or 'curvature-geometry'

Thus $a = k^3 = k - dot$ *= 1/e, and 'geometrically = reciprocal Volume'*

Now looking at

$$G\mu v = 8\pi G\, T\mu v$$

$$My\ assumptions\ are, \qquad G\mu v\ yields\ `gravity'\ [a]$$

$$T\mu v\ is\ density\ Rho = \frac{mass}{Volume}\ or\ Boylesque\ gamma$$

$$Ignore\ factor\ [8]\ as\ states, or\ some\ such, \qquad G = k - number, \qquad pi = 1/p = k^4 = 1/\gamma^2$$

$$then\ we\ get$$

$$Gravity = \pi.k.\rho$$

= [k.ρ]-dd

= [k-dd.ρ] (+) [k-dot.ρ-dot] (+) [k.ρ-dd]

= [ρ/m] + [a.1] + [k.f] 3 states

The 2nd & 3rd term are a , & equivalent k-dot respectively

The 1st is equivalent to Y/m = 1/energy

Thus we retrieve [-m.m-dot] = 1

w.r.t. Boyle's Law, PV = constant

can be, γ-dot. m-dot = 1. Energy

or energy is the constant, gamma is the density, & pressure P = F/A = [γ/γ] = γ-dot = 1, & energy = λ^3 *= Volume*

Hooke also deserves a mention as alike Kepler, he perhaps unwittingly pointed towards the model identity

[-ve F = Omega]s with Hooke's law in 1660.

Nullius in verba.

There are multiple more examples I suggest, but hats off to Kepler in particular,

not to mention Tycho, & Kopernik, Galileo' eppur si muove' & with certainty, Bruno the Martyred one, had a stake also.

It seems a grand synthesis is in prospect, and lo! 'All Religions are 1'. [W. Blake]

& now these three remain

$$\mathbf{1.c} \qquad h - dd.\lambda \quad (+) \quad h - dot.\lambda - dot \quad (+) \quad h.\lambda - dd$$